

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

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Date of mailing
(day/month/year) **21 MAY 2007**

Applicant's or agent's file reference

11502/32 PCT

FOR FURTHER ACTION

See paragraph 2 below

International application No.

PCT/US05/10469

International filing date (day/month/year)

28 March 2005 (28.03.2005)

Priority date (day/month/year)

26 March 2004 (26.03.2004)

International Patent Classification (IPC) or both national classification and IPC

IPC: **A61B 17/08**(2006.01);**A61F 2/06**(2006.01)

USPC: 606/151,153;623/1.13

Applicant

INTEGRATED VASCULAR INTERVENTIONAL TECHNOLOGIES

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/ US

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Date of completion of this opinion

22 April 2007 (22.04.2007)

Authorized officer

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WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/US05/10469

Box No. I Basis of this opinion

1. With regard to the language, this opinion has been established on the basis of:

- ☒ the international application in the language in which it was filed
☐ a translation of the international application into _____, which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).

2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:

a. type of material

- ☐ a sequence listing
☐ table(s) related to the sequence listing

b. format of material

- ☐ on paper
☐ in electronic form

c. time of filing/furnishing

- ☐ contained in the international application as filed.
☐ filed together with the international application in electronic form.
☐ furnished subsequently to this Authority for the purposes of search.

3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

4. Additional comments:

WRITTEN OPINION OF THE
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International application No.
PCT/US05/10469

Box No. V Reasoned statement under Rule 43 bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims <u>6, 15-18, 22-25 and 49-51</u>	YES
	Claims <u>1-5, 7-14, 19-21 and 26-48</u>	NO
Inventive step (IS)	Claims <u>6 and 49-51</u>	YES
	Claims <u>1-5 and 7-48</u>	NO
Industrial applicability (IA)	Claims <u>1-51</u>	YES
	Claims <u>NONE</u>	NO

2. Citations and explanations:

Claims 1-5, 7-14, 19-21 and 26-48 lack novelty under PCT Article 33(2) as being anticipated by US 6,428,550 to Vargas et al.

(claim 1-5, 7-11 and 30-40) Vargas discloses a method for connecting a vessel to another vessel comprising obtaining a graft 30, a stent 10 attached to said graft; anastomosing the first end of the graft vessel to a side of a first vessel 32, and anastomosing the second end of the graft vessel to a second vessel, wherein the device comprises two rings 20,22; wherein the stent is attached to the graft vessel; wherein an operator having a cutting means 152 for cutting the first vessel.

(claims 12-14, 19-21, 26-29 and 41-48) Vargas discloses a graft vessel device comprising a graft vessel 30; an anastomosis device 20,22; and a stent 10, wherein the stent is attached to the exterior of the graft vessel; and an obturator comprising a cutting element 152.

Claims 15-18 and 22-25 lack an inventive step under PCT Article 33(3) as being obvious over Vargas et al.

Vargas is silent with regards to suture, adhesives or polymeric substances for adhering the stent to the graft vessel. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use either a suture, adhesive or polymeric substance to secure the stent to the graft vessel because the use of such means would reinforce the connection between the stent and the graft vessel. Moreover, the use of such items are well known in the art.

Claims 6 and 49-51 meet the criteria set out in PCT Article 33(2)-(3), because the prior art does not teach or fairly suggest an anastomosis method comprising, inter alia, applying a second amount of force to the first vessel ring to eject the first vessel ring from the ring retainer, wherein the second amount of force is greater than the first amount of force a first vessel ring having an everted portion of a first vessel, a second vessel having an everted portion of a second vessel. The prior art also fails to teach the use of a tear-away sheath to secure the second end of the graft vessel to second vessel.

Claims 1-51 meet the criteria set out in PCT Article 33(4), and thus have industrial applicability because the subject matter claimed can be made or used in industry.